

New! From Master Specialties Company...

SERIES 22 SWITCH PROGRAMMING SEQUENCE ACTUATOR

Here's a new concept in switch programming! A precision mechanism that will enable you to program the switching of four switch modules in any combination of modes for each of twelve step-switching operations. The chart at left shows a typical arrangement of switching modes . . . and illustrates the possibilities for combinations. (As many as different arrangements!)

Sequence Actuators have been designed to snap onto Master Specialties Twist-Lite Series illuminated pushbutton switches to offer a new capability, yet maintain design compatibility with standard switch or word indicating devices. See the reverse side for a description of the sequencing action and specifications.

SWITCH STEP NO.	SWITCH IDENTIFICATION			
	A	B	C	D
1	ON	ON	ON	—
2	—	—	ON	ON
3	—	ON	—	ON
4	ON	ON	ON	ON
5	ON	—	—	—
6	—	—	ON	—
7	—	—	ON	ON
8	—	ON	ON	—
9	ON	—	ON	ON
10	ON	ON	—	—
11	—	—	ON	—
12	—	ON	—	ON

SEQUENCE PROGRAMMING CHART. This chart illustrates a typical twelve-position combination of switching modes for four switch modules. "On" indicates that the contacts have switched to the normally open position.

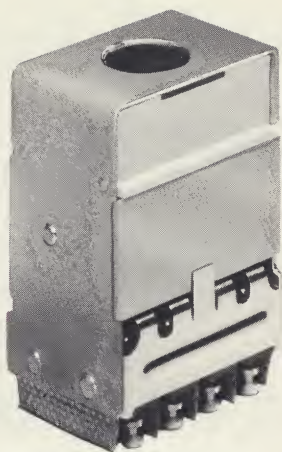
Tank 1	Tank 2
Tank 3	Tank 4



SEQUENCE ENCODER DIAL shows the exact sequence position of the mechanism for reference during installation. For control and identification from the equipment front, sequence steps can be displayed by using Twist-Lite indicators with 2, 3, or 4-way split display screens. In addition to sequence of 12 different switch combinations, units can be programmed to repeat combinations such as: 2 switch combinations 6 times; 3 combinations 4 times; 4 combinations 3 times, or 6 combinations 2 times. These repeat programs are based on 12 successive depressions of the switching mechanisms.



**Programs Four Miniature SPDT
Switch Modules for any combination
of switching modes...in as many
as 12 SEQUENTIAL STEPS!**

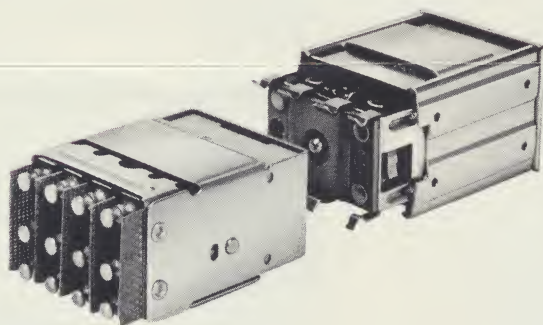


HOW THE SERIES 22 SEQUENCE ACTUATOR OPERATES

Each sequence actuator consists of four miniature SPDT switch modules and a precision switching mechanism comprised of four cams driven by a common shaft. Each of the 4 cams is positioned on the shaft to actuate one of the four modules.

At every 30° interval on the circumference of a cam, provision can be made to either close the switch contacts or leave the switch in the open position, according to the desired program. As many as 12 different combinations of switch positions can be made at each step of the actuator. The precision design provides for positive indexing at each position of the cam with external identification of the cam position by means of a sequence encoder dial.

Sequence Actuators snap onto standard MSC Twist-Lite Illuminated Pushbutton Switches to offer sequencing function and design compatibility in one unit.



**MASTER
SPECIALTIES
COMPANY**

MSC



DESIGN FEATURES

Positive Transfer

Force requirements are sufficient to prohibit accidental switching or "Tease" operation.

Plated, Double Turret Terminals

Long terminals will accept two 20 gauge wires, are plated for high solderability.

Enclosed Switch Mechanism

Enclosure protects mechanism, inhibits dust and dirt collection.

All Stainless Steel and Plastic Parts

For any environmental conditions.

Identified Switch Modules

Large, legible letters for quick identification during assembly.

Flexible "No Burn" Switch Insulators

Impregnated fiberglass insulators are non-flammable, do not produce offensive odors when subjected to high temperatures.

Sequence Identification

Sequence encoder dial is visible from opening in the side of the bracket to show cam position at a glance.

PERFORMANCE CHARACTERISTICS

OPERATING FORCE

3 to 5 lbs. max.

SWITCH RATINGS

SILVER CONTACTS: Rated for 5 amps at 125 or 250 VAC. @ 30 VDC, 3 amps inductive, 5 amps resistive.

GOLD CONTACTS: At 30 VDC, ½ amp inductive 1 amp resistive.

ELECTRICAL LIFE

25,000 actuations at full rated load.

MECHANICAL LIFE

50,000 actuations

SHOCK

Per MIL-STD-202, method 202, 50G.

VIBRATION

Per MIL-STD 202 method 204 cond A.

DIELECTRIC

1,000 volts at sea level for one minute.

OPERATING TEMPERATURE RANGE

-55°C to +85°C

WEIGHT

.110 lbs. max.

REGIONAL OFFICES AND TELEPHONE

ALABAMA: Huntsville 205-536-7415
CALIFORNIA: Costa Mesa 714-642-0114
CALIFORNIA: Sunnyvale 408-245-9292
FLORIDA: Winter Park 305-647-0100
ILLINOIS: Chicago 312-282-7112
NEW YORK: Syracuse 315-479-9191
NEW YORK: Valley Stream, L.I. 516-561-2334
TEXAS: Dallas 214-357-9459
MISSOURI: Kansas City 816-942-2826

1640 MONROVIA, COSTA MESA, CALIFORNIA
TELEPHONE AREA CODE 714: 642-2427



MSC

MASTER SPECIALTIES COMPANY 1640 MONROVIA AVE., COSTA MESA, CALIFORNIA 92627 • PHONE 714-642-2427 • TELEX 6-74667

Here's a whole new concept in switch programming
that might solve a particular problem for you!

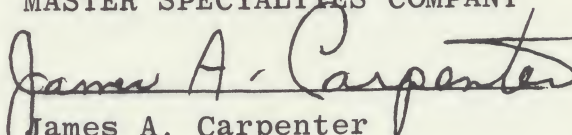
If you have ever been faced with the problem of needing one switch to do several jobs, you'll appreciate the feature of the new MSC Series 22 Snap-on Sequence Actuator. Chances are that in the past you have resorted to bulky stepping switches or other electro-mechanical devices to accomplish your objective. Now you can accomplish a rather startling number of switching functions with a single unit just slightly larger than the average four-pole miniature switch assembly.

Series 22 Snap-on Sequence Actuators are ready now. We are sending this data sheet and announcement to you ahead of a general announcement in the trade press, hoping that it may solve a problem for you. The enclosed literature describes the unique performance characteristics of the unit.

If you have such an application, please let us give you assistance. All units in this series are custom manufactured and can be produced to meet any programming requirement. We would be happy to hear from you and you can be sure your request will receive our immediate attention.

Very truly yours,

MASTER SPECIALTIES COMPANY


James A. Carpenter

MASTER SPECIALTIES SERIES 22 SEQUENCE ACTUATOR

COMPANY:

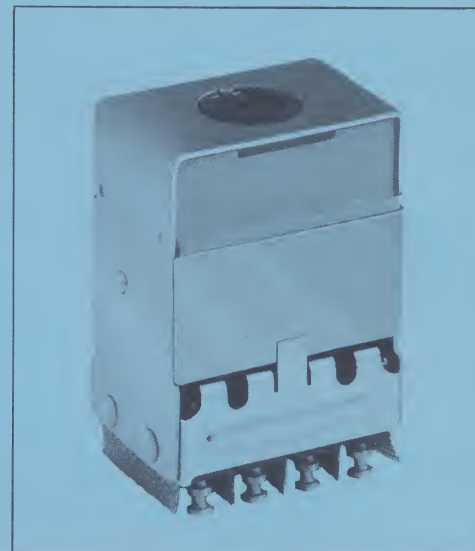
ADDRESS:

CITY:

STATE:

ATTENTION:

- ☐ PLEASE HAVE SALESMAN CALL TO SHOW ME SAMPLES
MY TELEPHONE NUMBER IS: _____ EXT. _____
- ☐ I HAVE A SPECIFIC APPLICATION FOR THE SERIES 22
THE APPLICATION IS: _____
IT CALLS FOR APPROXIMATELY _____ SWITCHES
- ☐ PLEASE SEND ME ALL FUTURE MASTER SPECIALTIES MAILING



ORDERING INFORMATION

The Series 22 Sequence Actuator is designed to allow the 4 switch modules to be actuated in any programmed sequence desired.

Each switch module is actuated by an independent cam and all cams are driven by a common shaft. Each cam is divided in 12 positions or steps because of the numerous combinations a convenient form is shown on the right: Please fill in position required and mail to MSC. From this form MSC will make a specification control drawing and will assign your particular unit a MSC part number so that any number of units may be ordered merely by calling out this number. Two prints of this specification control drawing will be furnished by MSC at no cost. (Refer to data sheet No. 3025 for additional information).

Fold this sheet with our address side out. Staple or tape it closed and drop it in the mail. No postage required.

CAM		SWITCH IDENTIFICATION			
STEP NO.		A	B	C	D
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					

BUSINESS REPLY MAIL

No Postage Stamp Necessary if Mailed in the United States

POSTAGE WILL BE PAID BY

MASTER SPECIALTIES CO.

1640 MONROVIA

COSTA MESA, CALIF. 92627

FIRST CLASS

PERMIT NO. 305

Costa Mesa, Calif.

